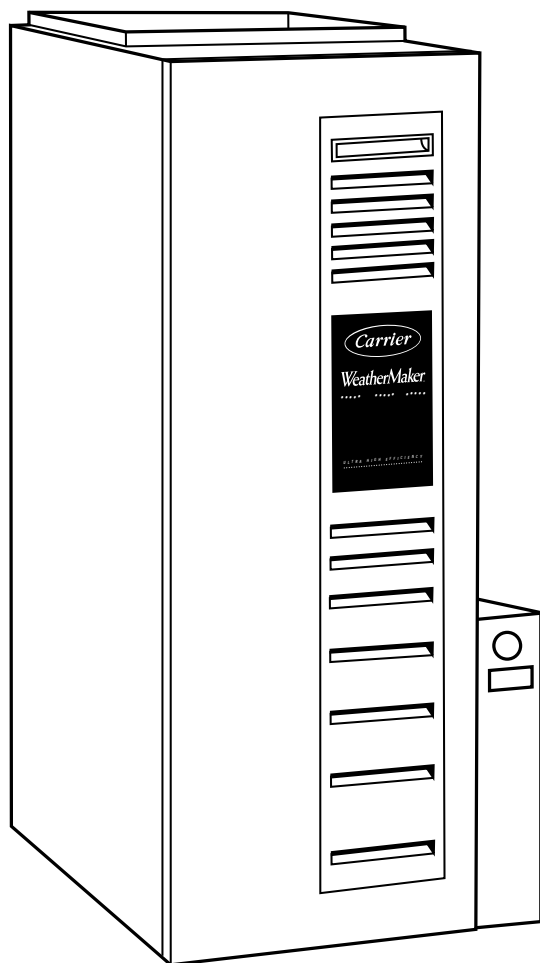




Product Data

58MXA Highly-Efficient 4-Way Multipoise Fixed-Capacity Direct-Vent Deluxe Condensing Gas Furnace

Series 140 & 150
Input Capacities: 40,000 thru 138,000 Btuh



4-Way Multipoise Design Allows More Applications . . .

The model 58MXA is a must for your product line. This high-efficiency furnace allows more applications with its reliable 4-way multipoise design. The model 58MXA is available in 12 heat/airflow combinations and with the 4-way multipoise design can be installed in upflow, downflow, or horizontal positions covering up to 48 different applications. With the exception of the 140 size unit, all 58MXA models can be installed in a manufactured (mobile) home when the optional kit is used. The furnace is factory configured for upflow application.

This versatile unit utilizes hot surface ignition (HSI) which ignites the burners directly. HSI eliminates gas waste that typical continuous-pilot designs can bring. Hot surface ignition provides reliable start-up and operation.

Take a look at the control center on model 58MXA. Control of ignition, inducer, and blower operation is all handled in 1 central printed circuit board. The status indicator on the control signals when a fault has occurred and identifies where the problem is. This, along with the component test feature, makes the 58MXA one of the easiest gas furnaces to troubleshoot.

High efficiency is achieved by maximizing heat transfer. The model 58MXA uses 100 percent outdoor air for combustion in a sealed-combustion system. The result is energy-saving efficiency, up to 95.5 percent (Pg. 12) Annual Fuel Utilization Efficiency (AFUE), and reduced operational noise. The model 58MXA is one of the quietest furnaces in the industry.

A unique feature of this unit is the patented polypropylene-laminated heat exchanger. This secondary heat

exchanger ensures that all available heat is properly transferred to the airstream and throughout the home. Using the exclusive flow-through design, the secondary heat exchanger reduces the pressure drop in the furnace which leads to lower electrical usage, an important part of this unit's efficiency. Carrier heat exchangers are backed by a Limited Lifetime Warranty. (See Warranties section for details.)

When we put it all together, the model 58MXA combines quality and design to bring high efficiency and comfort. You will enjoy the versatility and ease of installation of this unit. The model 58MXA is equipped for either left- or right-side connections. Blower speeds are easily adjustable with speed-taps conveniently located on the control center. An updated, more efficient combustion inducer allows for more use of 2-in. vent and combustion-air piping, keeping installation costs low.

As with other Carrier furnaces, this model is designed to work as a part of the total home comfort system which includes elements for cooling, air cleaning, humidification, ventilation, and zoning.

58MXA FEATURES/ BENEFITS

Casing — One piece, seamless wrap-around construction of heavy, galvanized steel resists corrosion.

Media Filter Cabinet — Enhanced indoor air quality in your home is made easier with our media filter cabinet—a standard accessory on all Deluxe furnaces. When installed as a part of your system, this cabinet allows for easy and convenient addition of a Carrier high-efficiency air filter.

Insulated Blower Compartment — The acoustical insulation reduces air and motor noise to promote quiet operation.

Certifications — The 58MXA units are A.G.A. and C.G.A. design certified for use with natural and propane gases. The furnace is factory-shipped for use with natural gas. An A.G.A./C.G.A. listed gas conversion kit is required to convert furnace for use with propane gas. The efficiency is GAMA efficiency rating certified. The 58MXA meets California Air Quality Management District emission requirements. Except for the 140 size unit, all 58MXA models can be installed in a manufactured (mobile) home when the optional kit is used.

Warranties — Limited Lifetime Warranty on the heat exchangers for the lifetime of original owner in single family residence; 20 years in other residential and commercial applications. Three-year Limited Warranty on microprocessor control, HSI, and inducer motor. One year Limited Warranty on entire unit. Contact your dealer for details.

Combustion Products Venting — The combustion-air and vent pipes can terminate through a side wall or through the roof when used with a factory-authorized vent termination kit.

Blower Access Panel Switch — Shuts off all 115-v power through furnace components whenever blower access panel is opened.

Hot Surface Ignitor — No pilot flame to waste gas or cause problems.

Slow Opening Redundant Gas Valve — Shuts off gas to burners if 1 of the valves fails to close completely for any

reason. The slow opening feature reduces start-up noise from rapid ignition.

Quality Registration — The 58MXA is engineered and manufactured under an ISO 9001 registered quality system.

Insulation — Foil-faced insulation in heat exchanger section of the casing minimizes heat loss.

Control Center — Microprocessor controls sequencing and furnace operation. Equipped with a component test feature and status indicator light to assist in troubleshooting. Selectable micro-processor blower control times blower start after main burners ignite to eliminate cold air blowing into rooms.

Adjustable Blower Speed — For precise airflow selection of heating or cooling operation.

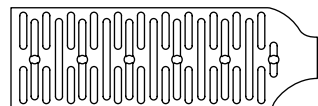
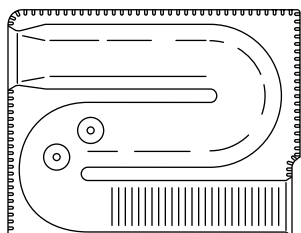
Direct-Vent Sealed Combustion System — Model 58MXA uses 100 percent outdoor air, which results in especially quiet operation. Direct venting minimizes the possibility of chloride contamination which can result in heat exchanger corrosion. Direct venting also reduces air infiltration into the home.

Monoport Burners — The burners are finely tuned for smooth, quiet combustion plus economical gas usage.

Serpentuff™ — Exclusive Serpentuff coating, a patented polypropylene laminate is used on the secondary heat exchanger.

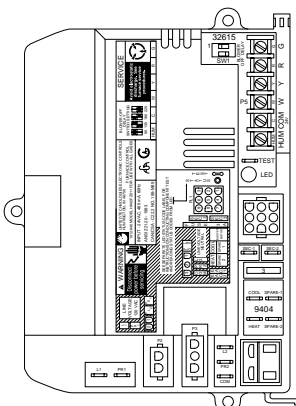
Bottom Closure — Factory-installed for side return; easily removable for bottom return.

Filter — Cleanable filter with retainer is standard.



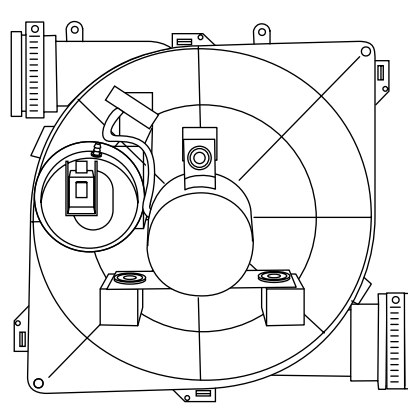
A92505

HEAT EXCHANGERS



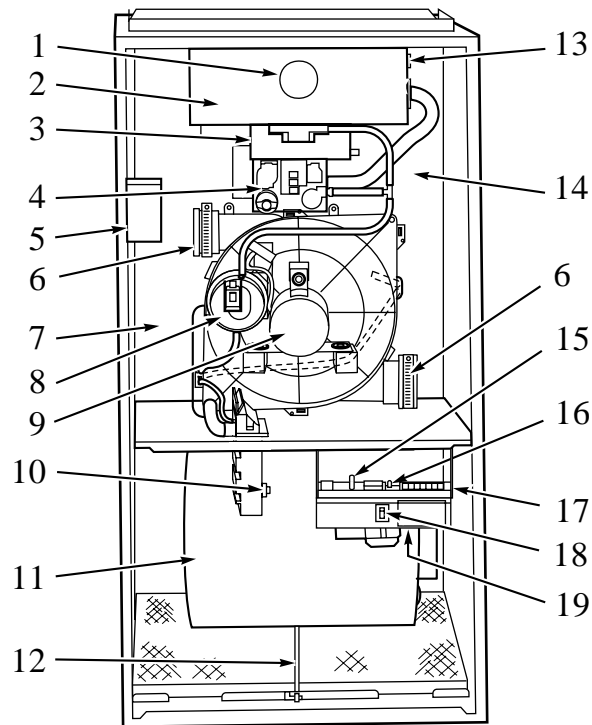
A94151

CONTROL CENTER



A94152

INDUCER ASSEMBLY



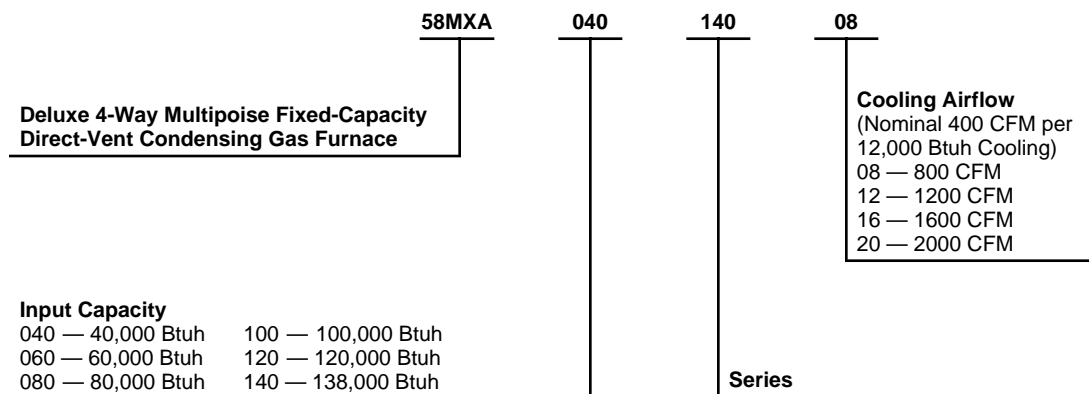
A98292

NOTES:

1. The 58MXA Furnaces are for use with natural gas, but can be field converted for propane gas with a factory-authorized and listed accessory conversion kit.
2. Component location and configuration may be different than shown above.

- | | |
|--|---|
| <p>1 Burner sight glass for viewing burner flame.</p> <p>2 Burner assembly (inside), operates with energy-saving, inshot burners and hot surface ignitor for safe, dependable heating.</p> <p>3 Combustion-air intake connection to ensure contaminant-free air (right or left side).</p> <p>4 Redundant gas valve, safe, efficient, features 1 gas control with 2 internal shutoff valves.</p> <p>5 Junction box for 115-v electrical power supply.</p> <p>6 Vent outlet uses sealed PVC pipe to carry vent gases from the furnace's combustion system (right or left side).</p> <p>7 Secondary condensing heat exchanger (inside), wrings out more heat through condensation of gases. Constructed with Polypropylene-laminated steel to ensure durability.</p> <p>8 Pressure switch ensures adequate flow of flue products through furnace and out vent system.</p> <p>9 Inducer motor pulls hot flue gases through the heat exchangers, maintaining negative pressure for added safety.</p> <p>10 Condensate drain connection collects moisture condensed during the combustion process.</p> | <p>11 Heavy-duty blower circulates air across the heat exchangers to transfer heat into the home.</p> <p>12 Air filter and retainer may be used for side return application.</p> <p>13 Rollout switch (manual reset) to prevent overtemperature in burner area.</p> <p>14 Primary serpentine heat exchanger (inside). Stretches fuel dollars with the S-shaped heat-flow design. Solid weld-free construction of corrosion-resistant aluminized steel means reliability.</p> <p>15 3-amp fuse provides electrical and component protection.</p> <p>16 Light emitting diode (LED) on control center. Code lights are for diagnosing furnace operation and service requirements.</p> <p>17 Control center.</p> <p>18 Blower access panel safety interlock switch.</p> <p>19 Transformer (24v) behind control center provides low-voltage power to furnace control center and thermostat.</p> |
|--|---|

Model number nomenclature



MEETS DOE RESIDENTIAL
CONSERVATION SERVICES
PROGRAM STANDARDS

Before purchasing this appliance,
read important energy cost and
efficiency information available
from your retailer.



As an ENERGY STAR®
Partner, Carrier
Corporation has
determined that this
product meets the
ENERGY STAR®
guidelines for energy
efficiency.



REGISTERED QUALITY SYSTEM

These products are engineered and
manufactured under an ISO 9001 registered
quality system.

Physical data

UNIT SIZE		040-08	040-12	060-08	060-12	060-16	080-12	080-16	080-20	100-16	100-20	120-20	140-20
OUTPUT CAPACITY BTUH* (ICS) (Shaded capacities are specified on rating plate)	Upflow	38,000	38,000	56,000	56,000	56,000	75,000	75,000	75,000	94,000	94,000	113,000	129,000
	Downflow	38,000	38,000	56,000	56,000	56,000	75,000	75,000	75,000	94,000	94,000	113,000	129,000
	Horizontal	38,000	38,000	56,000	56,000	56,000	74,000	75,000	75,000	93,000	93,000	112,000	128,000
INPUT BTUH†		40,000	40,000	60,000	60,000	60,000	80,000	80,000	80,000	100,000	100,000	120,000	138,000
SHIPPING WEIGHT (Lb)		149	152	156	163	166	172	175	197	193	196	252	252
CERTIFIED TEMP RISE RANGE (°F)		30—60	15—45	45—75	30—60	20—50	40—70	30—60	20—50	45—75	30—60	40—70	50—80
CERTIFIED EXT STATIC PRESSURE (In. wc)	Heating	0.10	0.10	0.12	0.12	0.12	0.15	0.15	0.15	0.20	0.20	0.20	0.20
	Cooling	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
AIRFLOW CFM‡	Heating	850	1125	885	1065	1320	1190	1285	1785	1315	1690	1720	1970
	Cooling	895	1215	900	1200	1545	1245	1525	1925	1570	1930	2000	1990
LIMIT CONTROL		SPST											
HEATING BLOWER CONTROL (Off Delay)		Selectable 90, 135, 180, or 225 Sec											
BURNERS (Monoport)		2	2	3	3	3	4	4	4	5	5	6	6
GAS CONNECTION SIZE		1/2-in. NPT											
GAS VALVE (Redundant) Manufacturer		White-Rodgers											
Minimum Inlet Pressure (In. wc)		4.5 (Natural Gas)											
Maximum Inlet Pressure (In. wc)		13.6 (Natural Gas)											
IGNITION DEVICE		Hot Surface											

* Capacity in accordance with U.S. Government DOE test procedures.

† Gas input ratings are certified for elevations to 2000 ft. For elevations above 2000 ft, reduce ratings 2% for each 1000 ft above sea level. In Canada, derate the unit 5% for elevations 2000 to 4500 ft above sea level.

‡ • Airflow shown is for bottom only return-air supply with factory supplied 1-in. washable filter(s).

• For air delivery above 1800 CFM, see Air Delivery table for other options.

• An airflow reduction of up to 7% may occur when using the factory-specified 4 5/16-inch wide, high efficiency media filter.

• For best furnace efficiency when using the 4 5/16-inch wide media filter, adjust the blower speed tap to near the mid-point of the rise range.

ICS—Isolated Combustion System;

Carrier accessories*

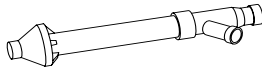
UNIT SIZE	040-08 040-12	060-08 060-12 060-16	080-12 080-16 080-20	100-16 100-20	120-20	140-20
GAS CONVERSION KIT — NATURAL-TO-PROPANE	KGANP2001ALL					
GAS CONVERSION KIT — PROPANE-TO-NATURAL	KGAPN1601ALL					
TWINNING KIT (Upflow Only)	N/A	KGATW0401HSI†				N/A
MANUFACTURED (Mobile) HOME KIT	KGAMH0101KIT					N/A
DOWNFLOW BASE (For Combustible Floors)‡	KGASB0201ALL					
VENT TERMINATION KIT (Bracket Only for 2 Pipes)	2-in. — KGAVT0101BRA		3-in. — KGAVT0201BRA			
CONCENTRIC TERMINATION KIT (Single Exit)	2-in. — KGAVT0501CVT		3-in. — KGAVT0601CVT			
CONDENSATE FREEZE PROTECTION KIT	KGAHT0101CFP					
ELECTRONIC AIR CLEANER (EAC)	Model AIRA					
MECHANICAL AIR CLEANER	Model 31MF or MACA					
HUMIDIFIER	Models HUM					
HEAT RECOVERY VENTILATOR	Model HRV					
ENERGY RECOVERY VENTILATOR	Model ERV					
THERMOSTAT — NON-PROGRAMMABLE	For Use with 1-Speed Air Conditioner — TSTATCCNAC01-B For Use with 2-Speed Air Conditioner — TSTATCCN2S01-B For Use with 2-Speed Heat Pump — TSTATCCN2S01-B					
THERMOSTAT — PROGRAMMABLE	For Use with 1-Speed Air Conditioner — TSTATCCPAC01-B For Use with 2-Speed Air Conditioner — TSTATCCP2S01-B For Use with 1-Speed Heat Pump — TSTATCCPDF01-B For Use with 2-Speed Heat Pump — TSTATCCP2S01-B or TSTATCCPDF01-B					
THERMIDISTAT — PROGRAMMABLE/ NON-PROGRAMMABLE THERMOSTAT W/Humidity Control	TSTATCCPRH01-B					
ZONING — 2 ZONE	ZONECC2KIT01-B, ZONEKIT2ZCAR					
ZONING — 4 ZONE	ZONECC4KIT01-B					
ZONING — 8 ZONE	ZONECC8KIT01-B					

* Factory-authorized and field-installed. Gas conversion kits are A.G.A./C.G.A. recognized.

† For 16 and 20 airflow sizes only (except 140-20 size unit) and in upflow application ONLY. See kit Installation Instructions for details.

‡ Required for installation on combustible floors when no coil box is used, or when any coil box other than a Carrier cased coil is used.

N/A—Not Applicable

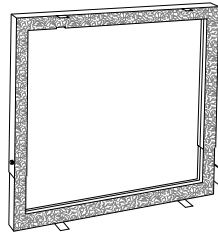


A93086

CONCENTRIC VENT

A concentric vent kit allows vent and combustion-air pipes to terminate through a single exit in a roof or side wall.

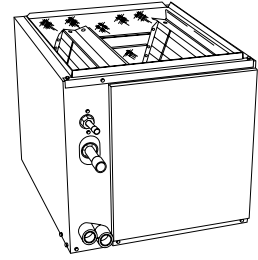
One pipe runs inside the other allowing venting through the inner pipe and combustion air to be drawn in through the outer pipe.



A88202

DOWNFLOW SUBBASE

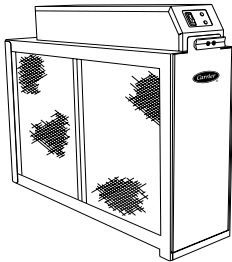
One base fits all furnace sizes. The base is designed to be installed between the furnace and a combustible floor when no coil box is used or when a coil box other than a Carrier cased coil is used. It is A.G.A./C.G.A. design certified for use with Carrier 58MXA furnaces when installed in downflow applications.



A96214

CK5 CASSED COIL (as shown)

The CD5 or CK5 Cased Coil is an upflow/downflow furnace coil which can also replace the downflow subbase when installing the 58MXA on combustible flooring in the downflow orientation.

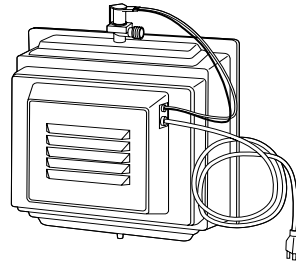


A97152

ELECTRONIC OR MECHANICAL AIR CLEANER

Cleans the air of smoke, dirt, and many pollens commonly found. Saves decorating and cleaning expenses by keeping carpets, furniture, and drapes cleaner.

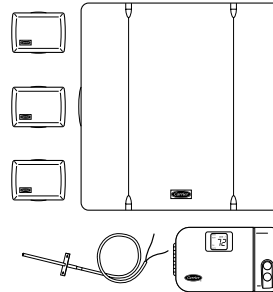
Electronic air cleaner is shown.



A95248

HUMIDIFIER

By adding moisture to winter-dry air, a Carrier humidifier can often improve comfort and keeps woodwork, wallpaper, and paint in better condition. Moisturizing household air also helps to retain normal body heat and provides comfort at lower temperatures.

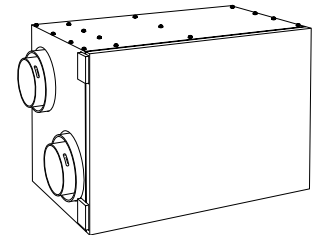


A97432

CONTROLS: THERMOSTATS AND ZONING

Available in programmable and non-programmable models, Carrier thermostats maintain a constant, comfortable temperature level in the home.

For the ultimate in home comfort, Carrier's 2, 4 and 8-zone systems allow temperature control of individual "zones" of the home. This is accomplished through a series of electronic dampers and remote room sensors. The 4-zone system is shown.



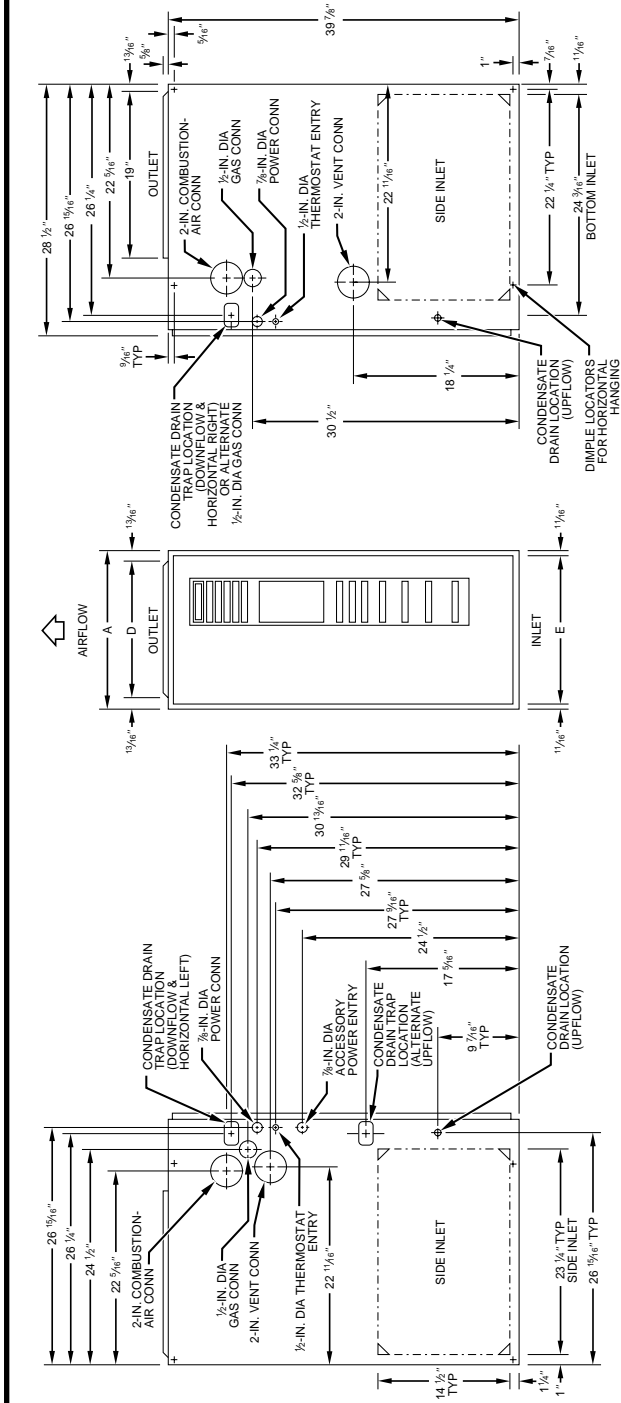
A94336

ENERGY/HEAT RECOVERY VENTILATOR

Carrier's energy or heat recovery ventilators exhaust stale indoor air and provide fresh outdoor air to the home while minimizing heat loss and humidity level. Especially useful for today's tighter constructed houses.

Energy recovery ventilator is shown.

Dimensions



NOTES: Minimum return-air opening at furnace, based on metal duct. If flex duct is used, see flex duct manufacturer's recommendation for equivalent diameters:

- For 800 CFM—16-in. round or 14-1/2 X 12-in. rectangle.
- For 1200 CFM—20-in. round or 14-1/2 X 19-1/2 in. rectangle.
- For 1600 CFM—22-in. round or 14-1/2 X 23-1/4 in. rectangle.
- For airflow requirements above 1800 CFM, see Air Delivery Table in Product Data literature for specific use of single side inlets. The use of both side inlets, a combination of 1 side and the bottom, or the bottom only will ensure adequate return-air openings for airflow requirements above 1800 CFM.

A98568

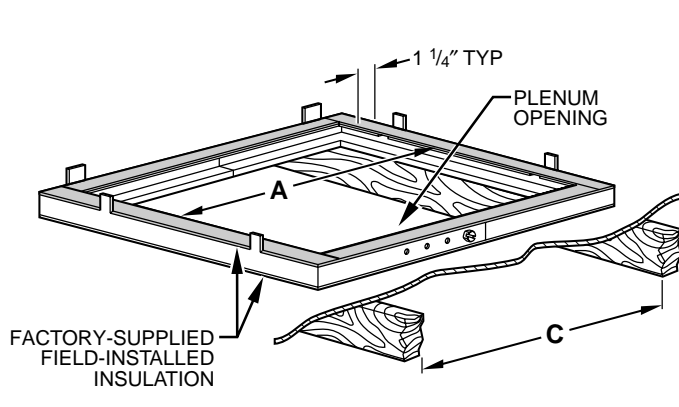
DIMENSIONS (In.)

UNIT SIZE	A	D	E
040-08	17-1/2	15-7/8	16
040-12	17-1/2	15-7/8	16
060-08	17-1/2	15-7/8	16
060-12	17-1/2	15-7/8	16
060-16	17-1/2	15-7/8	16
080-12	17-1/2	15-7/8	16
080-16	17-1/2	15-7/8	16
080-20	21	19-3/8	19-1/2
100-16	21	19-3/8	19-1/2
100-20	21	19-3/8	19-1/2
120-20	24-1/2	22-7/8	23
140-20	24-1/2	22-7/8	23

DOWNFLOW SUBBASE — DIMENSIONS (In.)

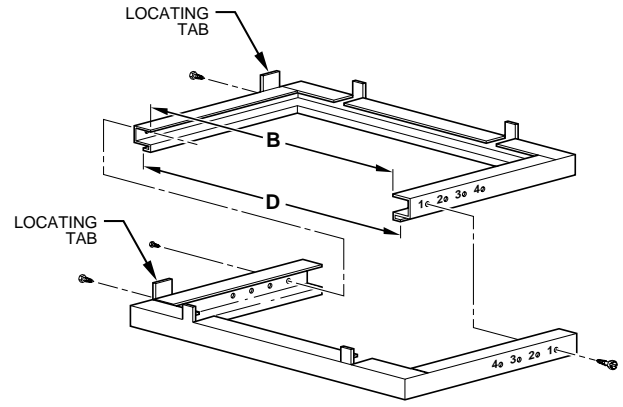
FURNACE CASING WIDTH	FURNACE IN DOWNFLOW APPLICATION	PLENUM OPENING*		FLOOR OPENING		HOLE NO. FOR WIDTH ADJUSTMENT
		A	B	C	D	
17-1/2	Furnace with or without CD5 or CK5 Coil Assembly or KCAKC Coil Box	15-1/8	19	16-3/4	20-3/8	3
21	Furnace with or without CD5 or CK5 Coil Assembly or KCAKC Coil Box	18-5/8	19	20-1/4	20-3/8	2
24-1/2	Furnace with or without CD5 or CK5 Coil Assembly or KCAKC Coil Box	22-1/8	19	23-3/4	20-3/8	1

* The plenum should be constructed 1/4 in. smaller in width and depth than the plenum dimensions shown above.



A97427

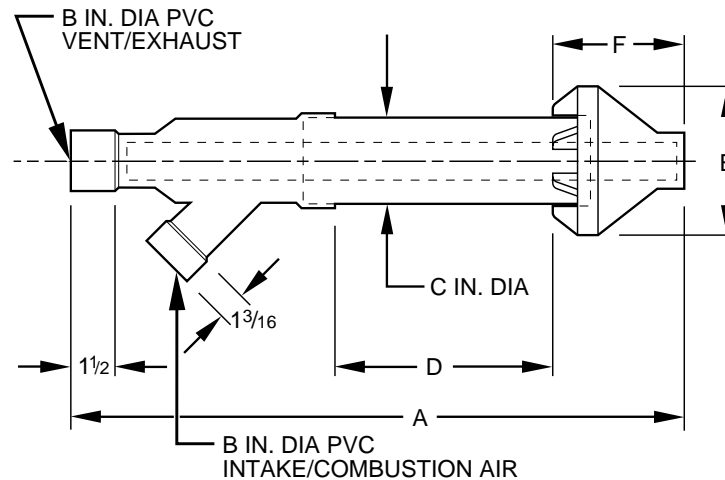
Assembled



A88207

Disassembled

CONCENTRIC VENT



A97110

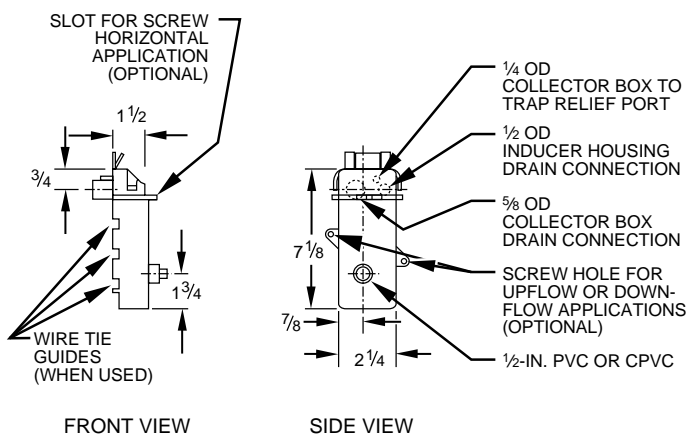
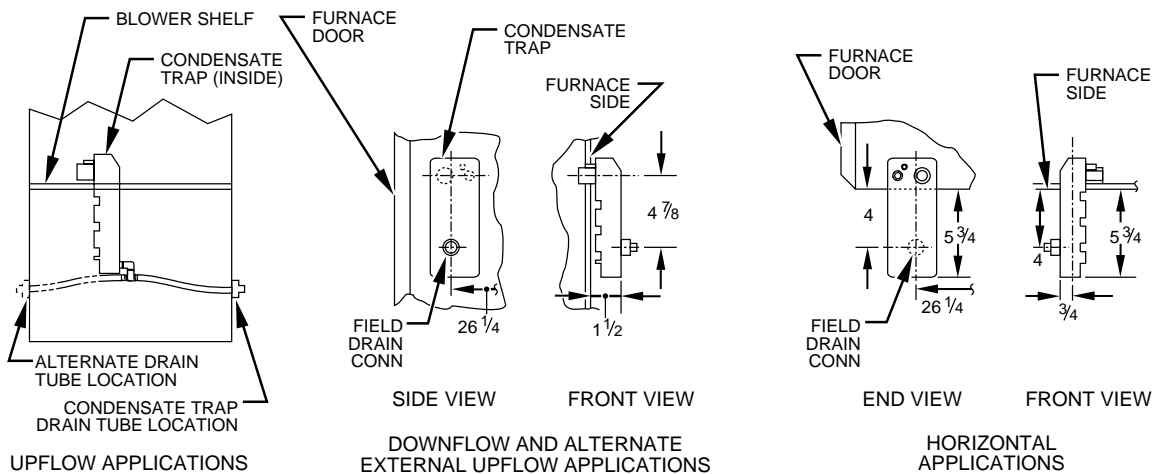
DIMENSIONS (In.)

KIT PART NO.	A*	B	C	D†	E	F
KGAVT0501CVT	33-3/8	2	3-1/2	16-5/8	6-1/4	5-3/4
KGAVT0601CVT	38-7/8	3	4-1/2	21-1/8	7-3/8	6-1/2

* Dimension A will change accordingly as dimension D is lengthened or shortened.

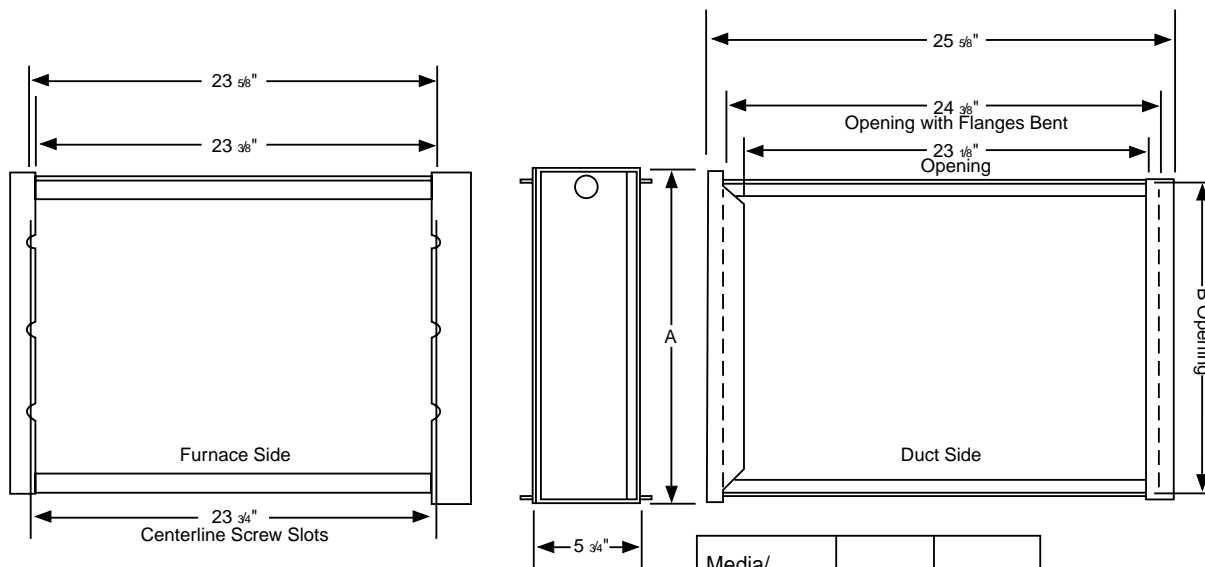
† Dimension D may be lengthened to 60 in. maximum. Dimension D may also be shortened by cutting the pipes provided in the kit to 12 in. minimum.

CONDENSATE TRAP



A93026

MEDIA FILTER CABINET



Media/ Filter Cabinet	A	B
16"	17	16"
20"	21	20"
24"	25	24"

A00309

Clearance to combustibles

This forced air furnace is equipped for use with natural gas at altitudes 0 - 10,000 ft (0 - 3,050m), except 140 size Furnaces are only approved for altitudes 0 - 7,000 ft. (0 - 2,135m).

An accessory kit, supplied by the manufacturer, shall be used to convert to propane gas use or may be required for some natural gas applications.

This furnace is for indoor installation in a building constructed on site. This furnace may be installed in a manufactured (mobile) home when stated on rating plate and using factory authorized kit.

This furnace may be installed on combustible flooring in alcove or closet at minimum clearance from combustible material.

This appliance requires a special venting system. Refer to the installation instructions for parts list and method of installation. This furnace is for use with schedule-40 PVC, PVC-DWV, or ABS-DWV pipe, and must not be vented in common with other gas-fired appliances. Construction through which vent/air intake pipes may be installed is maximum 24 inches (600 mm), minimum 3/4 inches (19 mm) thickness (including roofing materials).

MINIMUM INCHES CLEARANCE TO COMBUSTIBLE CONSTRUCTION

ALL POSITIONS:

* Minimum front clearance for service 30 inches (762mm).

†† 140 size furnaces require 1 inch back clearance to combustible materials.

DOWNFLOW POSITIONS:

† For installation on combustible floors only when installed on special base No. KGASB0201ALL, Coil Assembly, Part No. CD5 or CK5, or Coil Casing, Part No. KCAKC.

HORIZONTAL POSITIONS:

§ Clearance shown is for air inlet and air outlet end.

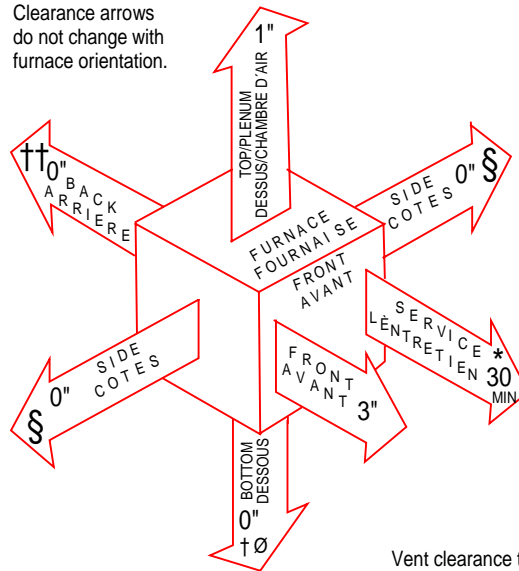
Line contact is permissible only between lines formed by intersections of top and two sides of furnace jacket, and building joists, studs, or framing.

Ø 120 and 140 size Furnaces require 1 inch bottom clearance to combustible materials.

324999-201 TOP REV. B

This furnace is approved for UPFLOW, DOWNFLOW and HORIZONTAL installations.

Clearance arrows do not change with furnace orientation.



Clearance in inches

Vent clearance to combustibles 0".

A97609

Performance data

UNIT SIZE	040-08	040-12	060-08	060-12	060-16	080-12	080-16	080-20	100-16	100-20	120-20	140-20
DIRECT-DRIVE MOTOR Hp (PSC)	1/5	1/3	1/5	1/3	1/2	1/3	1/2	3/4	1/2	3/4	3/4	3/4
MOTOR FULL LOAD AMPS	4.9	5.8	4.9	5.8	7.9	5.8	7.9	11.1	7.9	11.1	11.1	11.1
RPM (Nominal) — SPEEDS	1075—3	1075—4	1075—3	1075—4								
BLOWER WHEEL DIAMETER X WIDTH (In.)	10 x 6	10 x 7	10 x 6	10 x 7	11 x 8	10 x 7	11 x 8	11 x 10	11 x 8	11 x 10	11 x 10	11 x 10
FILTER SIZE (In.) — (Washable)	(1) 16 x 25 x 1							(1) 20 x 25 x 1			(1) 24 x 25 x 1	

PSC—Permanent Split Capacitor

EFFICIENCY

UNIT SIZE		040-08	040-12	060-08	060-12	060-16	080-12	080-16	080-20	100-16	100-20	120-20	140-20
CAPACITY* (ICS) (Shaded capacities are specified on rating plate)	Upflow	38,000	38,000	56,000	56,000	56,000	75,000	75,000	75,000	94,000	94,000	113,000	129,000
	Downflow	38,000	38,000	56,000	56,000	56,000	75,000	75,000	75,000	94,000	94,000	113,000	129,000
	Horizontal	38,000	38,000	56,000	56,000	56,000	74,000	75,000	75,000	93,000	93,000	112,000	128,000
AFUE%* Nonweatherized ICS	Upflow	94.3	95.5	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1	93.1	92.6
	Downflow	92.9	94.0	91.7	91.7	91.7	91.7	91.7	91.7	91.7	91.7	91.7	91.2
	Horizontal	93.7	94.9	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.5	92.0

* Capacity and AFUE in accordance with U.S. Government DOE test procedures effective November 10, 1997.

ICS—Isolated Combustion System

AIR DELIVERY—CFM (With Filter)*

UNIT SIZE	RETURN-AIR SUPPLY	SPEED	EXTERNAL STATIC PRESSURE (In. wc)							
			0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
040-08	1 side or bottom	High	1075	1040	995	945	895	840	760	670
		Med-Low	850	825	780	740	685	635	560	480
		Low	740	700	650	620	565	515	455	385
040-12	1 side or bottom	High	1470	1415	1400	1285	1215	1120	995	890
		Med-High	1315	1280	1235	1180	1115	1035	930	825
		Med-Low	1125	1110	1085	1045	990	915	830	740
060-08	1 side or bottom	High	1100	1065	1005	945	900	805	730	610
		Med-Low	890	865	810	765	705	620	540	475
		Low	745	710	670	625	565	505	425	360
060-12	1 side or bottom	High	1430	1375	1325	1275	1200	1135	1040	935
		Med-High	1270	1260	1215	1160	1105	1035	950	850
		Med-Low	1070	1055	1045	1015	975	920	850	750
060-16	1 side or bottom	High	1700	1695	1640	1580	1545	1450	1380	1310
		Med-High	1500	1465	1435	1385	1355	1300	1250	1185
		Med-Low	1325	1295	1265	1230	1190	1150	1105	1050
080-12	1 side or bottom	High	1535	1470	1405	1330	1245	1160	1065	935
		Med-High	1395	1350	1300	1225	1155	1080	985	880
		Med-Low	1200	1175	1125	1065	1030	970	890	780
080-16	1 side or bottom	High	1750	1685	1635	1575	1525	1445	1380	1310
		Med-High	1495	1455	1405	1355	1305	1250	1185	1120
		Med-Low	1310	1260	1225	1170	1125	1095	1040	980
080-20	1 side or bottom	High	2200	2175	2085	2025	1925	1820	1735	1635
		Med-High	2100	2025	1945	1865	1785	1700	1620	1540
		Med-Low	1815	1760	1720	1670	1620	1550	1480	1405
100-16	1 side or bottom	High	1740	1705	1660	1615	1570	1500	1425	1355
		Med-High	1500	1470	1445	1410	1375	1330	1280	1210
		Med-Low	1340	1315	1300	1270	1235	1200	1140	1095
100-20	1 side or bottom	High	2250	2175	2090	2020	1930	1855	1760	1670
		Med-High	2020	1950	1900	1840	1790	1710	1640	1545
		Med-Low	1725	1690	1660	1630	1575	1520	1460	1370
120-20	bottom only	High	2350	2250	2160	2070	2000	1885	1790	1635
		Med-High	2100	2015	1955	1875	1810	1710	1650	1540
		Med-Low	1770	1720	1675	1620	1575	1515	1450	1365
140-20	bottom only	High	2435	2360	2285	2220	2130	2050	1965	1875
		Med-High	2040	2000	1950	1905	1835	1790	1725	1650
		Med-Low	1545	1520	1465	1415	1365	1325	1265	1185
140-20	both sides or 1 side and bottom	High	2255	2190	2115	2045	1965	1890	1800	1710
		Med-High	1985	1930	1890	1840	1780	1720	1645	1560
		Med-Low	1675	1650	1620	1590	1560	1510	1450	1390
140-20	1 side only	High	2140	2080	2025	1945	1875	1795	1725	1625
		Med-High	1930	1850	1800	1740	1725	1660	1580	1495

- † • Airflow shown is for bottom only return-air supply with factory supplied 1-in. washable filter(s).
- For air delivery above 1800 CFM, see Air Delivery table for other options.
 - An airflow reduction of up to 7% may occur when using the factory-specified 4 5/16-inch wide, high efficiency media filter.
 - For best furnace efficiency when using the 4 5/16-inch wide media filter, adjust the blower speed tap to near the mid-point of the rise range.

Combustion-air and vent piping

MAXIMUM ALLOWABLE PIPE LENGTH (FT)

ALTITUDE ABOVE SEA LEVEL (FT)	UNIT SIZE	TERMINATION TYPE	PIPE DIA (IN.)*	NUMBER OF 90° ELBOWS					
				1	2	3	4	5	6
0 to 2000	040-08 040-12	2 Pipe or 2-In. Concentric	1	5	NA	NA	NA	NA	NA
			1-1/2	70	70	65	60	60	55
			2	70	70	70	70	70	70
	060-08 060-12 060-16	2 Pipe or 2-In. Concentric	1-1/2	20	15	10	5	NA	NA
			2	70	70	70	70	70	70
			1-1/2	10	NA	NA	NA	NA	NA
	080-12 080-16 080-20	2 Pipe or 2-In. Concentric	2	55	50	35	30	30	20
			2-1/2	70	70	70	70	70	70
			2	5	NA	NA	NA	NA	NA
	100-16 100-20	2 Pipe or 3-In. Concentric	2-1/2	40	30	20	20	10	NA
			3	70	70	70	70	70	70
			2-1/2 one disk	10	NA	NA	NA	NA	NA
	120-20	2 Pipe or 3-In. Concentric	3†	45	40	35	30	25	20
			3† no disk	70	70	70	70	70	70
			4† no disk	70	70	70	70	70	70
	140-20	2 Pipe or 3-In. Concentric	2-1/2 one disk	5	NA	NA	NA	NA	NA
			3† one disk	40	35	30	25	20	15
			3† no disk	60	56	52	48	44	40
			4† no disk	70	70	70	70	70	70
2001 to 3000	040-08 040-12	2 Pipe or 2-In. Concentric	1-1/2	67	62	57	52	52	47
			2	70	70	70	70	70	70
			1-1/2	17	12	7	NA	NA	NA
	060-08 060-12 060-16	2 Pipe or 2 In. Concentric	2	70	67	66	61	61	61
			2	49	44	30	25	25	15
			2-1/2	70	70	70	70	70	70
	080-12 080-16 080-20	2 Pipe or 2-In. Concentric	2-1/2	35	26	16	16	6	NA
			3	70	70	70	70	66	61
			3	14	9	NA	NA	NA	NA
	120-20	2 Pipe or 3-In. Concentric	3† no disk	70	70	63	56	50	43
			4† no disk	70	70	70	70	70	70
			3† one disk	20	15	10	5	NA	NA
	140-20	2 Pipe or 3-In. Concentric	3† no disk	39	35	31	27	23	19
			4† no disk	70	70	70	70	70	70
			4† no disk	70	70	70	70	70	70
3001 to 4000	040-08 040-12	2 Pipe or 2-In. Concentric	1-1/2	64	59	54	49	48	43
			2	70	70	70	70	70	70
			1-1/2	16	11	6	NA	NA	NA
	060-08 060-12 060-16	2 Pipe or 2-In. Concentric	2	68	63	62	57	57	56
			2	46	41	28	23	22	13
			2-1/2	70	70	70	70	70	70
	080-12 080-16 080-20	2 Pipe or 2-In. Concentric	2-1/2	33	24	15	14	5	NA
			3	70	70	70	66	61	56
			3† no disk	65	58	51	44	38	31
	120-20	2 Pipe or 3-In. Concentric	4† no disk	70	70	70	70	70	70
			3† one disk	11	6	NA	NA	NA	NA
			3† no disk	30	26	22	18	14	10
	140-20	2 Pipe or 3-In. Concentric	4† no disk	70	70	70	70	70	70
			4† no disk	70	70	70	70	70	70
			4† no disk	70	70	70	70	70	70
4001 to 5000†	040-08 040-12	2 Pipe or 2-In. Concentric	1-1/2	60	55	50	45	44	39
			2	70	70	70	70	70	70
			1-1/2	15	10	5	NA	NA	NA
	060-08 060-12 060-16	2 Pipe or 2-In. Concentric	2	64	59	58	53	52	52
			2	44	39	26	21	20	11
			2-1/2	70	70	70	70	70	70
	080-12 080-16 080-20	2 Pipe or 2-In Concentric	2-1/2	31	22	13	12	NA	NA
			3	70	70	67	62	57	52
			3† no disk	53	46	40	33	26	20
	120-20	2 Pipe or 3-In. Concentric	4† no disk	70	70	70	70	70	70
			3† no disk	21	17	13	9	5	NA
			4† no disk	69	64	59	54	49	44

See notes on pg. 15.

MAXIMUM ALLOWABLE PIPE LENGTH (FT) Continued

ALTITUDE ABOVE SEA LEVEL (FT)	UNIT SIZE	TERMINATION TYPE	PIPE DIA (IN.)*	NUMBER OF 90° ELBOWS					
				1	2	3	4	5	6
5001 to 6000†	040-08	2 Pipe 2-In. Concentric	1-1/2	57	52	47	42	40	35
	040-12		2	70	70	70	70	70	70
	060-08	2 Pipe or 2-In. Concentric	1-1/2	14	9	NA	NA	NA	NA
	060-12		2	60	55	54	49	48	47
	060-16	2 Pipe or 2-In. Concentric	2	41	36	23	18	17	8
	080-12		2-1/2	70	70	70	70	70	70
	080-16	2 Pipe or 3-In. Concentric	2-1/2	29	21	12	11	NA	NA
	080-20		3	70	67	62	57	52	47
	100-16	2 Pipe or 3-In. Concentric	3† no disk	42	35	29	22	15	9
	100-20		4† no disk	70	70	70	70	70	70
	120-20	2 Pipe or 3-In. Concentric	3† no disk	12	8	NA	NA	NA	NA
	140-20		4† no disk	42	37	32	27	22	17
6001 to 7000‡	040-08	2 Pipe or 2-In. Concentric	1-1/2	53	48	43	38	37	32
	040-12		2	70	70	68	67	66	64
	060-08	2 Pipe or 2-In. Concentric	1-1/2	13	8	NA	NA	NA	NA
	060-12		2	57	52	50	45	44	43
	060-16	2 Pipe or 2-In. Concentric	2	38	33	21	16	15	6
	080-12		2-1/2	70	70	68	67	66	64
	080-16	2 Pipe or 3-In. Concentric	2-1/2	27	19	10	9	NA	NA
	080-20		3	68	63	58	53	48	43
	100-16	2 Pipe or 3-In. Concentric	3† no disk	31	24	18	11	NA	NA
	100-20		4† no disk	70	70	70	70	67	62
	120-20	2 Pipe or 3-In. Concentric	4† no disk	17	12	7	NA	NA	NA
	140-20		4† no disk	17	12	7	NA	NA	NA
7001 to 8000‡	040-08	2 Pipe or 2-In. Concentric	1-1/2	49	44	39	34	33	28
	040-12		2	66	65	63	62	60	59
	060-08	2 Pipe or 2-In. Concentric	1-1/2	12	7	NA	NA	NA	NA
	060-12		2	53	48	46	41	40	38
	060-16	2 Pipe or 2-In. Concentric	2	36	31	19	14	12	NA
	080-12		2 1/2	66	65	63	62	60	59
	080-16	2 Pipe or 3-In. Concentric	2-1/2	25	17	8	7	NA	NA
	080-20		3	63	58	53	48	43	38
	100-16	2 Pipe or 3-In. Concentric	3† no disk	20	13	7	NA	NA	NA
	100-20		4† no disk	61	56	51	46	41	36
	120-20	2 Pipe or 3-In. Concentric	4† no disk	61	56	51	46	41	36
	140-20		4† no disk	61	56	51	46	41	36
8001 to 9000‡	040-08	2 Pipe or 2-In. Concentric	1-1/2	46	41	36	31	29	24
	040-12		2	62	60	58	56	55	53
	060-08	2 Pipe or 2-In. Concentric	1-1/2	11	6	NA	NA	NA	NA
	060-12		2	49	44	42	37	35	34
	060-16	2 Pipe or 2-In. Concentric	2	33	28	17	12	10	NA
	080-12		2-1/2	62	60	58	56	55	53
	080-16	2 Pipe or 3-In. Concentric	2-1/2	23	15	7	5	NA	NA
	080-20		3	59	54	49	44	39	34
	100-16	2 Pipe or 3-In. Concentric	3† no disk	10	NA	NA	NA	NA	NA
	100-20		4† no disk	35	30	25	20	15	10
	120-20	2 Pipe or 3-In. Concentric	4† no disk	35	30	25	20	15	10
	140-20		4† no disk	35	30	25	20	15	10
9001 to 10,000‡	040-08	2 Pipe or 2-In. Concentric	1-1/2	42	37	32	27	25	20
	040-12		2	57	55	53	51	49	47
	060-08	2 Pipe or 2-In. Concentric	2	45	40	38	33	31	29
	060-12		2	30	25	14	9	7	NA
	060-16	2 Pipe or 2-In. Concentric	2-1/2	57	55	53	51	49	47
	080-12		2-1/2	21	13	5	NA	NA	NA
	080-16	2 Pipe or 3-In. Concentric	3	54	49	44	39	34	29
	080-20		4† no disk	10	5	NA	NA	NA	NA
	100-16	2 Pipe or 3-In. Concentric	4† no disk	10	5	NA	NA	NA	NA
	100-20		4† no disk	10	5	NA	NA	NA	NA
	120-20	2 Pipe or 3-In. Concentric	4† no disk	10	5	NA	NA	NA	NA
	140-20		4† no disk	10	5	NA	NA	NA	NA

* Disk usage—Unless otherwise specified, use perforated disk assembly (factory-supplied in loose parts bag). If 1 disk is stated, separate 2 halves of perforated disk assembly and use shouldered disk half. When using shouldered disk half, install screen side toward inlet box.

† Wide radius elbow.

‡ Vent sizing for Canadian installations over 4500 ft (1370m) above sea level are subject to acceptance by the local authorities having jurisdiction.

NA — Not Allowed; pressure switch will not make.

NOTES:

1. Do not use pipe size greater than those specified in table or incomplete combustion, flame disturbance, or flame sense lockout may occur.
2. Size both the combustion-air and vent pipe independently, then use the larger diameter for both pipes.
3. Assume two 45° elbows equal one 90° elbow. Long radius elbows are desirable and may be required in some cases.
4. Elbows and pipe sections within the furnace casing and at the vent termination should not be included in vent length or elbow count.
5. The minimum pipe length is 5 ft for all applications.
6. Use 3 in. diameter vent termination kit for installations requiring 4 in. diameter pipe.

**MAXIMUM ALLOWABLE EXPOSED VENT PIPE LENGTH (FT) WITH AND WITHOUT INSULATION
IN WINTER DESIGN TEMPERATURE AMBIENT***

UNIT SIZE	WINTER DESIGN TEMPERATURE (°F)	MAX PIPE DIAMETER (IN.)	WITHOUT INSULATION	WITH 3/8-IN. OR THICKER INSULATION†
040-08 040-12	20	1-1/2	51	70
	0	1-1/2	28	70
	-20	1-1/2	16	70
060-08 060-12 060-16	20	2	65	70
	0	2	35	70
	-20	2	20	70
080-12 080-16 080-20	20	2-1/2	70	70
	0	2-1/2	47	70
	-20	2-1/2	28	70
100-16 100-20	20	3	70	70
	0	3	50	70
	-20	3	28	70
120-20	20	4	70	70
	0	4	48	70
	-20	4	23	70
140-20	20	4	70	70
	0	4	57	70
	-20	4	30	70

* Pipe length (ft) specified for maximum vent pipe lengths located in unconditioned spaces. Vent pipes located in unconditioned space cannot exceed the total allowable pipe length as specified in Maximum Allowable Pipe Length table.

† Insulation thickness based on R value of 3.5 per in.

Electrical data

UNIT SIZE	040-08	040-12	060-08	060-12	060-16	080-12	080-16	080-20	100-16	100-20	120-20	140-20
UNIT VOLTS — HERTZ — PHASE	115—60—1											
OPERATING VOLTAGE RANGE (Min — Max)*	104—127											
MAXIMUM UNIT AMPS	6.1	7.3	6.1	7.1	9.5	7.6	10.0	14.1	10.2	14.8	14.6	14.3
UNIT AMPACITY†	8.4	10.0	8.4	9.8	12.8	10.4	13.4	18.4	13.5	19.3	19.1	18.8
MINIMUM WIRE SIZE	14	14	14	14	14	14	14	12	14	12	12	12
MAXIMUM WIRE LENGTH (Ft)‡	44	37	44	38	29	36	28	31	27	30	30	30
MAXIMUM FUSE OR CKT BKR (Amps)**	15	15	15	15	15	15	15	20	15	20	20	20
TRANSFORMER (24v)	40va											
EXTERNAL CONTROL POWER AVAILABLE	Heating	12va										
	Cooling	21va										
AIR CONDITIONING BLOWER RELAY	Standard											

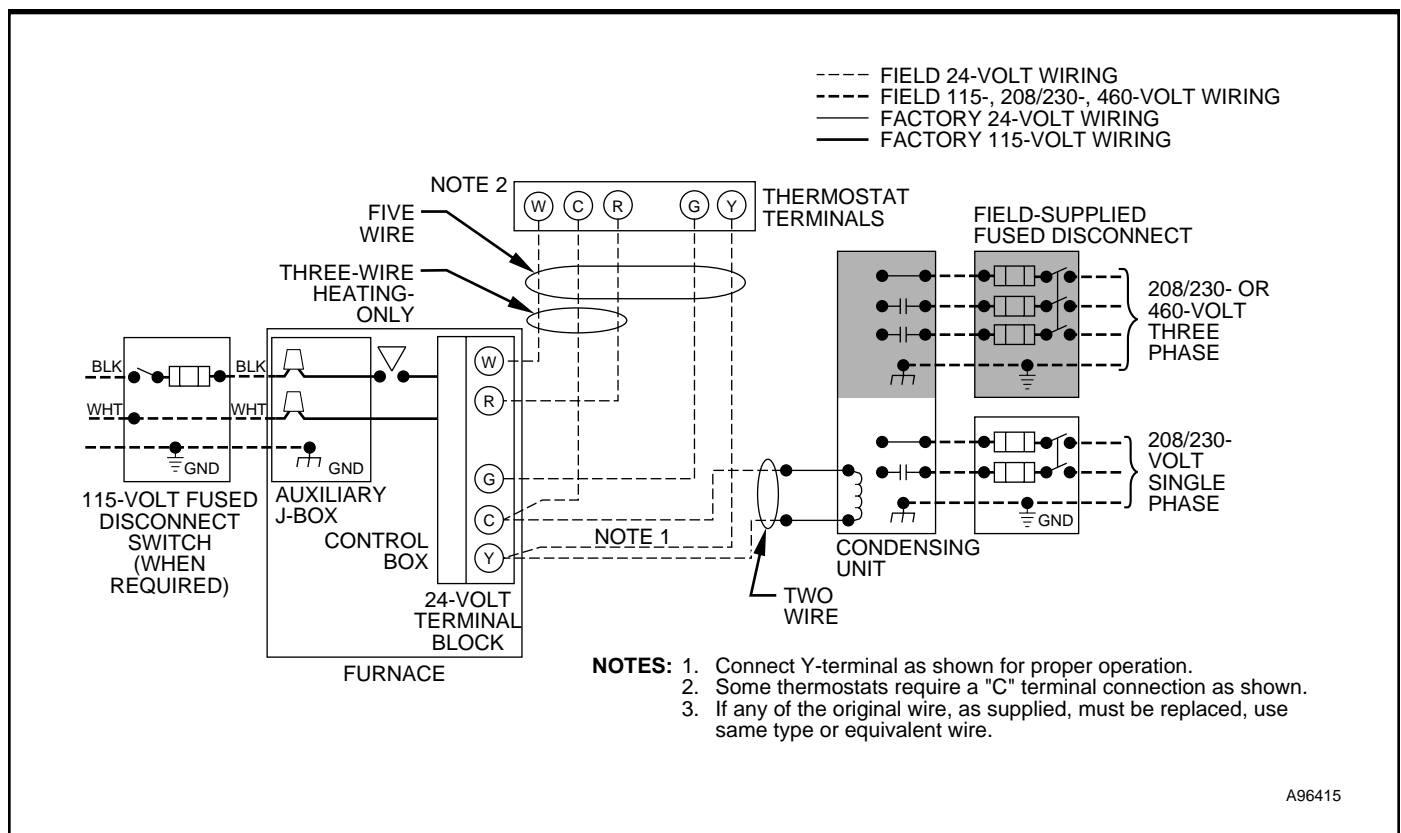
* Permissible limits of the voltage range at which unit will operate satisfactorily.

† Unit ampacity = 125% of largest operating component's full load amps plus 100% of all other potential operating components' (EAC, humidifier, etc.) full load amps.

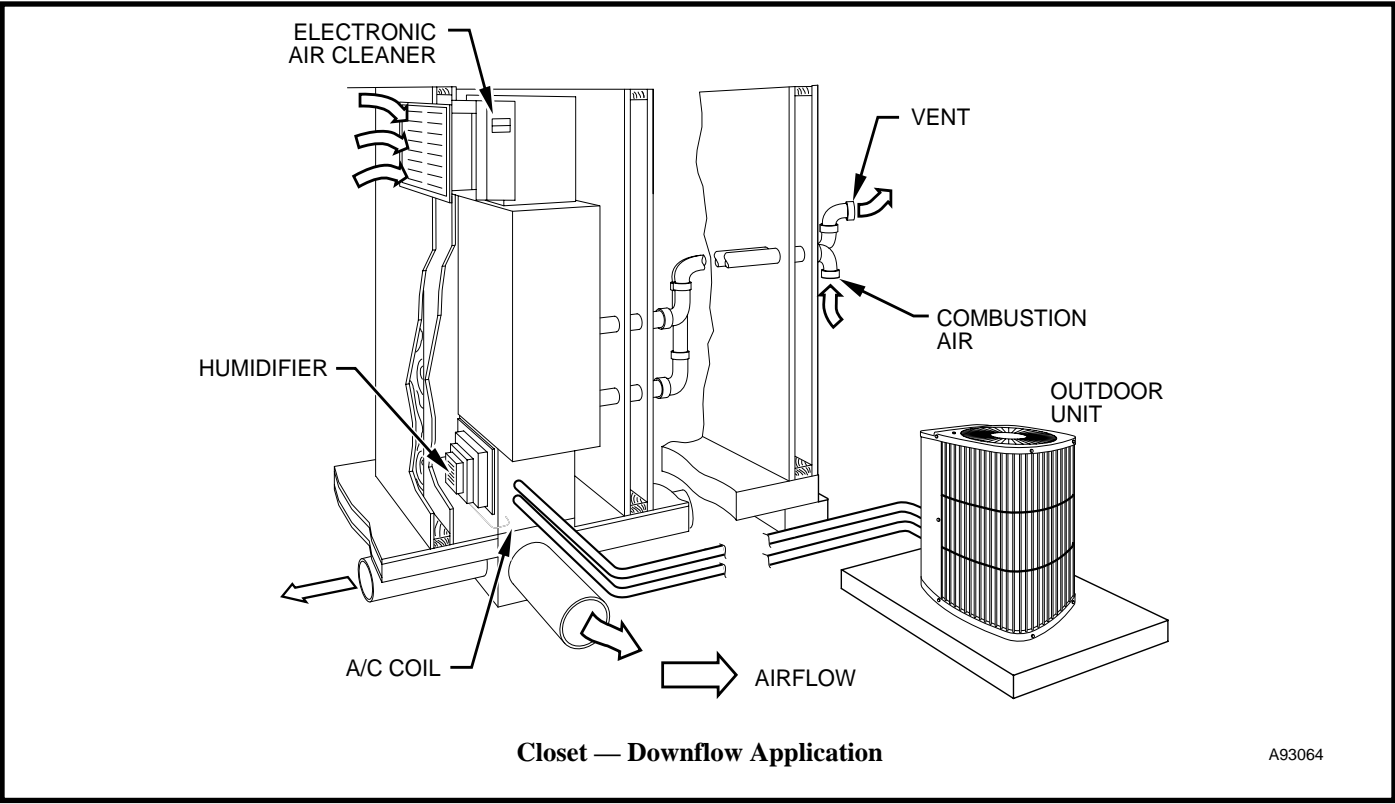
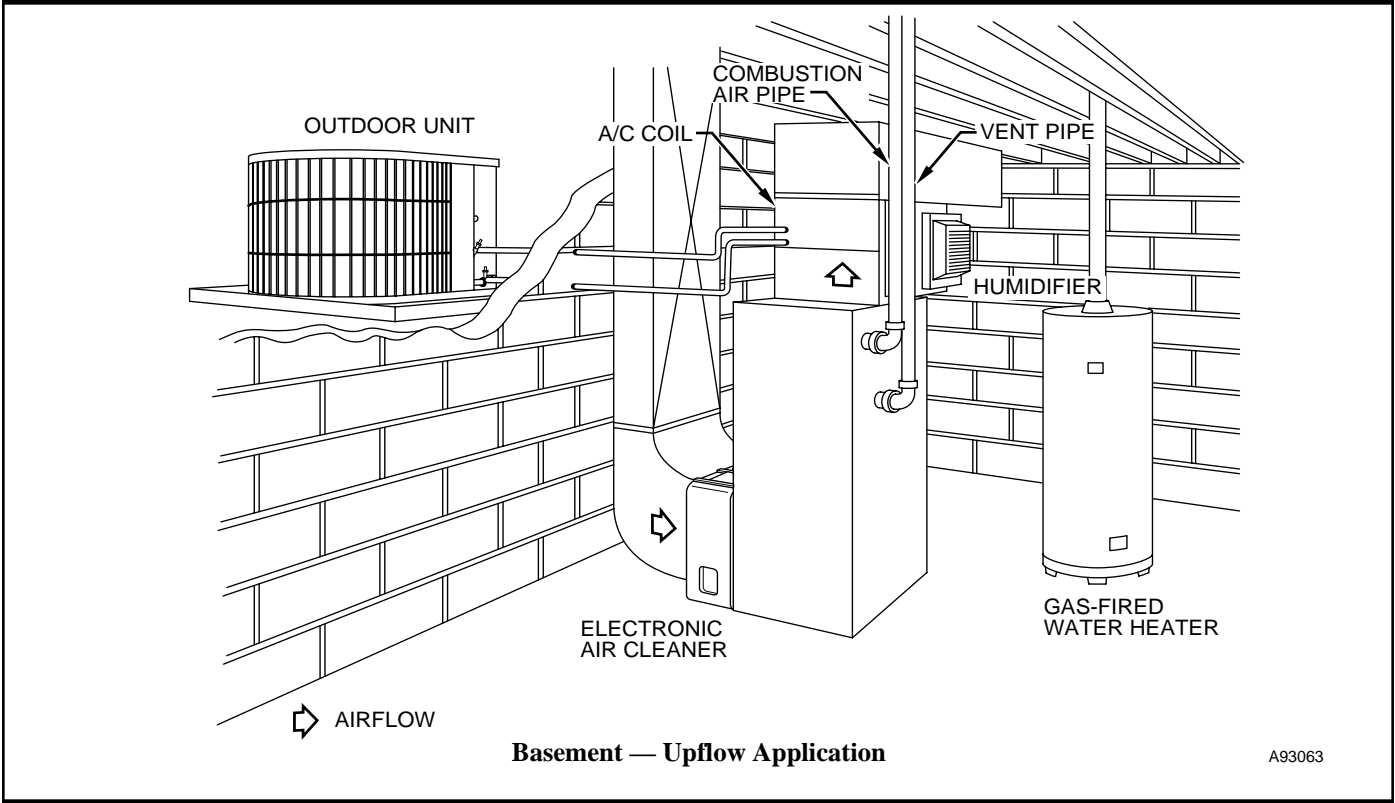
‡ Length is as measured 1 way along wire path between unit and service panel for maximum 2% voltage drop.

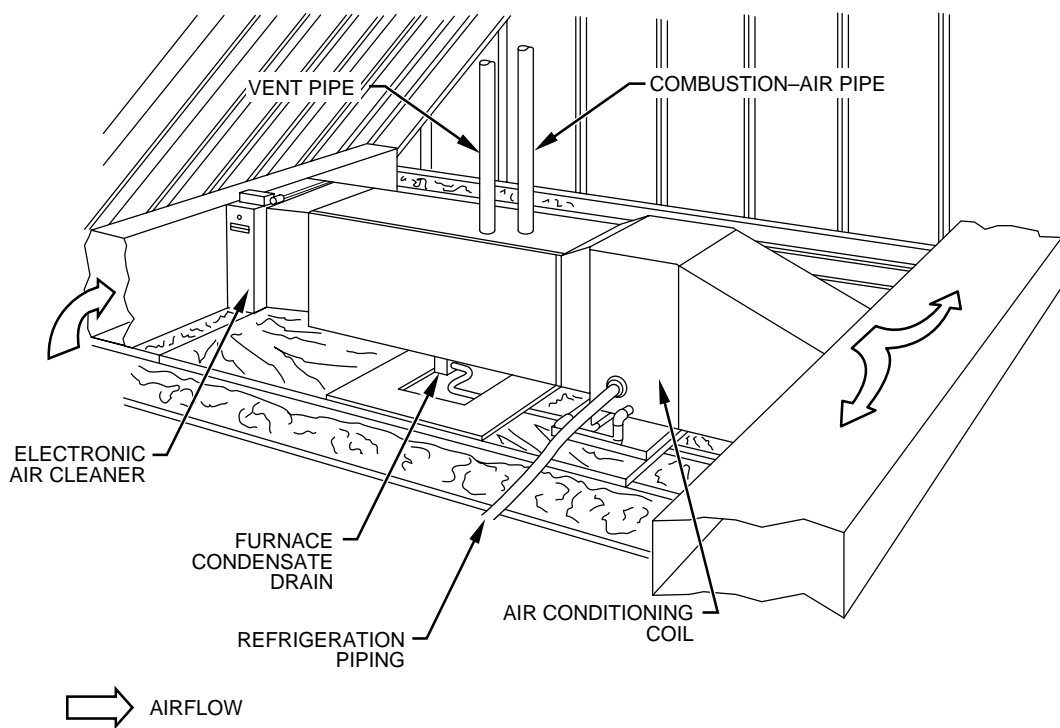
** Time-delay type is recommended.

Typical wiring schematic



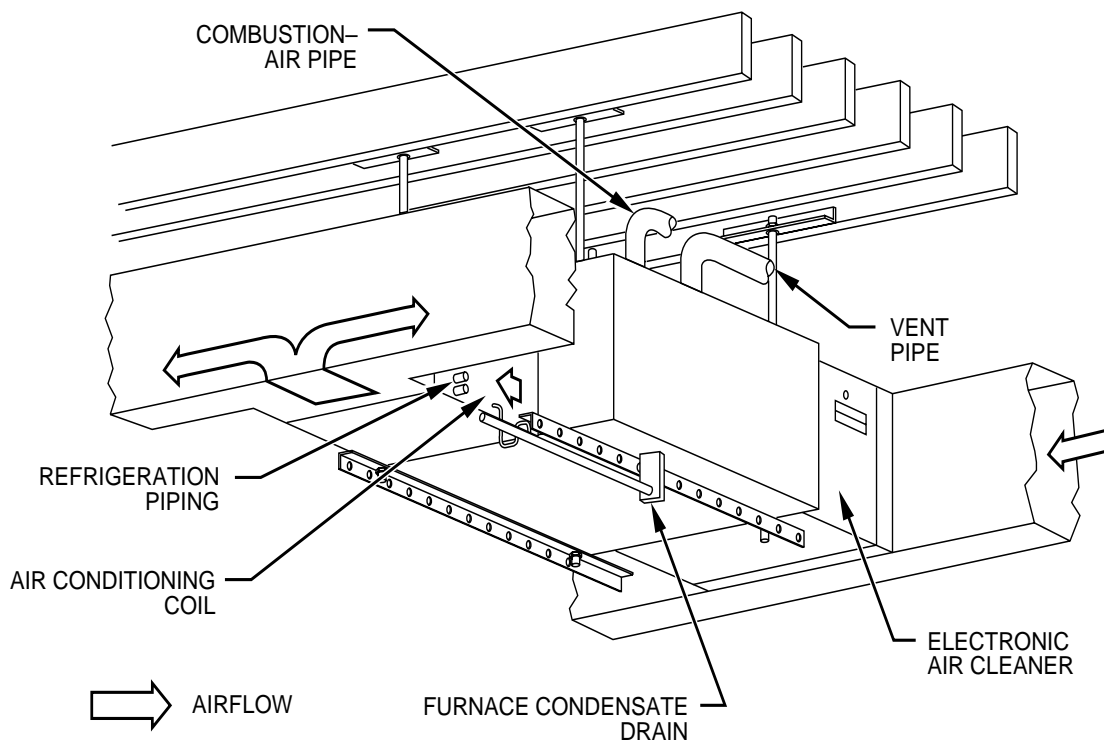
Typical installations





A93065

Attic — Horizontal Application



A93066

Crawlspace — Horizontal Application



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Catalog No. 525-80001

Printed in U.S.A.

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